

REMARKS

Claims 1, 3 through 6, and 12 through 17 are currently pending in the application, of which claims 1, and 3 through 6 are currently under examination. Claims 12 through 17 are withdrawn from consideration as being drawn to a non-elected invention.

This amendment is in response to the final Office Action of December 1, 2006.

Information Disclosure Statements

Applicant notes the filing of Information Disclosure Statements herein on May 23, 2006; September 5, 2006; November 16, 2006; December 4, 2006 and December 14, 2006 and note that copies of the PTO/SB/08A were not returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO/SB/08A be made of record herein.

35 U.S.C. § 112 Claim Rejections

Claims 1, and 3 through 6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has amended the claimed invention to particularly point out and distinctly claim the subject matter of the invention to comply with the provisions of 35 U.S.C. § 112. Therefore, presently amended claims 1 and 3 through 6 are allowable under the provisions of 35 U.S.C. § 112.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Applicant's Admitted Prior Art (AAPA) in view of Lim et al. (U.S. Patent 6,544,816) in view of Beer et al. (EP472768A) and in view of Miyashita (JP 11006073A) and Kawada et al. (JP 403101141A)

Claims 1, and 3 through 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter referred to as "AAPA") in view of Lim et al. (U.S. Patent 6,544,816) in view of Beer et al. (EP472768A) and in view of Miyashita (JP

11006073A) and Kawada et al. (JP 403101141A). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed inventions to clearly distinguish over the cited prior art.

Applicant asserts that any combination of AAPA in view of Lim et al. in further view of Beer et al. and in yet further view of Miyashita and Kawada et al. Applicant asserts that AAPA Lim et al. in further view of Beer et al. and in yet further view of Miyashita and Kawada et al. does not and cannot establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions of presently amended independent claim 1 because any combination of such cited prior art fails to teach or suggest all the claim limitations of the claimed inventions.

Turning to the cited prior art, AAPA teaches or suggests mounting a semiconductor die to a substrate and encapsulation.

Lim et al. teaches or suggests encapsulating a semiconductor device in a mold wherein the semiconductor device includes a semiconductor chip 40 having a spacer thereunder mounted on an interposer 45a having solder balls 47 attached to a surface of the interposer 45a.

Beer et al. teaches or suggests a data card 1 formed of epoxy resin having a chip 2 attached to a card 1 covered by a carrier 3 of glass fiber material having a surface thereof roughened by a laser beam to improve bonding to the card 1.

JP 11006073A teaches or suggests using a laser beam to remove a resist coated film while cutting and roughening the surface of a metal part being formed.

JP 403101141A removing an oxide film and contamination on the surface of a conductor 2 having bumps 6 on the tip thereof on a tape carrier 12 for heating and pressurizing the bumps 6 to bond to a layer 11 on the bond pad 8 of a semiconductor chip 5.

Applicant asserts that any combination of AAPA in view of Lim et al. in further view of Beer et al. and in yet further view of Miyashita and Kawada et al. does not and cannot establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention of presently amended independent claim 1 because any combination of such cited prior art fails to teach or suggest all the claim limitations of the claimed inventions of presently amended independent claim 1 calling for “[a] semiconductor device having a portion thereof formed from a wafer of semiconductive material by a laser etching process comprising:

a substrate of semiconductive wafer material having a surface . . . a semiconductor device having a portion thereof attached to a portion of the substrate . . . an interposer comprising silicon oxide coated silicon connected to the substrate, the interposer having a laser roughened surface using a first laser at a first location increasing the surface area of a surface of the interposer to adhere mold material thereto in a molding operation, the surface roughened prior to the semiconductor device being attached to the interposer . . . and . . . a portion of resist, contamination, and oxidation located on a portion of the surface of the substrate of semiconductive wafer material removed by laser etching of the resist, contamination, and oxidation from the surface of the substrate of semiconductive wafer material using a second laser forming a portion of an automolding system, the portion of resist, contamination, and oxidation removed by the second laser forming a portion of the automolding system prior to the encapsulation of a portion of the semiconductor device in the automolding system”.

In contrast to the claim limitations of the claimed inventions, the AAPA merely teaches a semiconductor device on a substrate while Lim et al. teaches or suggests encapsulating a semiconductor device in a mold while Beer et al. teaches or suggests a data card 1 formed of epoxy resin having a chip 2 attached to a card 1 covered by a carrier 3 of glass fiber material having a surface thereof roughened by a laser beam to improve bonding to the card 1 while JP 11006073A teaches or suggests using a laser beam to remove a resist coated film while cutting and roughening the surface of a metal part being formed while JP 403101141A removing an

oxide film and contamination on the surface of a conductor 2 having bumps 6 on the tip thereof on a tape carrier 12 for heating and pressurizing the bumps 6 to bond to a layer 11 on the bond pad 8 of a semiconductor chip 5. Applicant asserts that none of the cited prior art teaches or suggests a substrate of semiconductive wafer material having a surface, an interposer comprising silicon oxide coated silicon connected to the substrate, the interposer having a laser roughened surface using a first laser at a first location increasing the surface area of a surface of the interposer to adhere mold material thereto in a molding operation, the surface roughened prior to the semiconductor device being attached to the interposer, and a portion of resist, contamination, and oxidation located on a portion of the surface of the substrate of semiconductive wafer material removed by laser etching of the resist, contamination, and oxidation from the surface of the substrate of semiconductive wafer material using a second laser forming a portion of an automolding system, the portion of resist, contamination, and oxidation removed by the second laser forming a portion of the automolding system prior to the encapsulation of a portion of the semiconductor device in the automolding system. Applicant asserts that the only teaching or suggestion for such claim limitations is solely Applicant's disclosure, not the cited prior art. As such, Applicant asserts that any combination of the cited prior art cannot and does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention of presently amended independent claim 1 because the cited prior art reference must teach or suggest all of the claim limitations, which it does not, and furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. Therefore, presently amended independent claim 1 and dependent claims 3 through 6 are allowable.

Applicant requests entry of this amendment for the following reasons:

The amendment is timely filed.

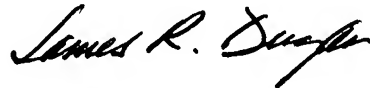
The amendment places the application in condition for allowance.

The amendment does not require any further search or consideration.

Applicant submits that claims 1 and 3 through 6 are clearly allowable over the cited prior art.

Applicant requests the entry of this amendment, the allowance of claims 1 and 3 through 6 and the case passed for issue.

Respectfully submitted,



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